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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,363	12/29/2003	Young Gi Lee	2013PI43	7778

8791 7590 05/22/2007  
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EXAMINER
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WEINER, LAURA S

ART UNIT	PAPER NUMBER
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1745

MAIL DATE	DELIVERY MODE
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05/22/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/748,363	Applicant(s) LEE ET AL.	
	Examiner Laura S. Weiner	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2007.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 6-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br/>         Paper No(s)/Mail Date <u>12-03; 8-05</u>.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/>         Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
|---|---|

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election of Group I, claims 1-12 and the second polymer film made of PVDF-HFP in the reply filed on 4-2-07 and telephone call of 5-10-07 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claim 13-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4-2-07.

### *Claim Rejections - 35 USC § 112*

3. Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-4 are rejected because it is unclear what is meant by "a copolymer or blend thereof". It is unclear if this is referring to the polymers listed or to any polymers or blends. This phrase is usually used in Markush language.

Claim 4 is rejected because it is unclear what is being claimed. It is unclear what the polymer film is made of. The indefinite phrase of "a copolymer of vinylidene fluoride and trifluoroethylene, polymethacrylate, polyethyleneacrylate...polypropylene oxide, a copolymer or blend thereof" makes the claim vague and indefinite.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahn et al. (KR 2001055968, abstract).

Ahn et al. teaches an electrochemical device comprising a multilayered polymeric film comprising a porous first polymer layer and a gelled second polymer layer of polyvinylidene fluoride-chlorotrifluoroethylene copolymer. Ahn et al. teaches (i) dissolving polyvinylidene fluoride-chlorotrifluoroethylene copolymer in a solvent and (ii) after coating or impregnating one side or both sides of a porous polymer film with the solution of (i), drying it to form a gelled second polymer layer. Ahn et al. teaches on page 4 of the patent that the first porous polymer film can be polypropylene, polytetrafluoroethylene, polyurethane, polyacrylonitrile, polyvinylidene fluoride-hexafluoropropylene, etc. Ahn et al. teaches on page 6 of the patent that the electrolyte comprises 1M LiPF<sub>6</sub> and EC/EMC.

6. Claims 1-5, 9-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Segawa (JP 2003157898, translation and abstract).

Segawa teaches a battery comprising an anode and/or cathode containing a 1<sup>st</sup> porous polymer electrolyte and a 2<sup>nd</sup> porous polymer electrolyte layer. Segawa teaches on pages 7-8 of the translation that the polymer electrolyte comprises a layer of PVDF and a layer of PVDF-HFP. The first polymer electrolyte layer has a thickness of 25 um. Segawa teaches on page 11 of the translation that the separator made from polypropylene with a thickness of 15 um and another layer of PVDF had a thickness of 5 um. Segawa teaches on page 7 of the translation that the electrolyte comprises 1 M LiPF<sub>6</sub> and EC:DEC.

***Allowable Subject Matter***

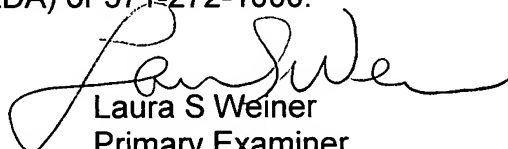
7. Claims 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Laura S Weiner  
Primary Examiner  
Art Unit 1745

May 16, 2007